

REMARKS

The Applicant traverses the Examiner's rejection of claims 1-17. In particular, neither Thimsen (U.S. Pat. No. 4,844,064) nor Banko (U.S. Pat. No. 4,167,944) describes or suggests at least the claimed cutting instrument having an edge of a helical knife extending through an opening of an outer member to form an outer periphery of the cutting instrument. However, to expedite prosecution, the Applicant has cancelled claims 1-17, amended claim 25, and added new claims 42-60. Accordingly, claims 18-60 are presented for consideration, of which claims 18, 25, 42, 59, and 60 are independent.

The Examiner rejected claims 18-41 under 35 U.S.C. § 102(b) as being anticipated by Thimsen.

Claim 18

Claim 18 is directed to a method of cutting including slicing into tissue with a helical knife to draw tissue proximally toward a cutting portion, and cutting the tissue with the cutting portion. The helical knife has a slicing edge extending through an opening at least partially bounded by the cutting portion.

Thimsen does not describe or suggest as least the claimed slicing into tissue with a helical knife to draw tissue proximally toward a cutting portion. Thimsen describes an instrument including a helical cutter blade 18 having cutting edges 74 and 76, received within an outer tube 14 having an opening 16 with parallel cutting edges 58 and 60, and end cutting edges 66, and an opening 17 having cutting edge 70 and cutting edge 73 (col. 5, lines 46, 57, and 67-68). According to Thimsen, the cutting edges 74, 76 of the blade 18 "can be of any configuration that will appropriately cooperate with the cutting edges of the openings 16 and 17 to shear material to be cut in a scissors-like fashion while crowding such material generally toward one of the cutting edges 58 and 60 of opening 16 and cutting edge 73 of opening 17" (col. 6, lines 40-46). Thus in Thimsen, the blade 18 does not slice into tissue to draw tissue proximally toward a cutting portion, but merely functions in cooperation with the cutting edges of the openings 16 and 17 to shear material located between the respective cutting edges of the blade and outer tube in a scissors-like fashion.

While one might argue that Thimsen's description of "crowding such material generally toward one of the cutting edges 58 and 60 of opening 16 and cutting edge 73 of opening 17" corresponds to the claimed "slicing into tissue with a helical knife to draw tissue proximally toward a cutting portion," as is clear from the description at col. 6, line 62 to col. 7, line 1, the scissors-like action cutting occurs between edges 74, 76 of blade 18 and cutting edges 66 and cutting edge 70 of tube 14, and "crowding" is referring to moving material toward the junction of cutting edge 66 with the cutting edges 58 and 60 of opening 16, and the junction of cutting edge 70 with cutting edge 73 of opening 17. However, none of this "crowding" acts to draw tissue proximally toward a cutting portion. Rather, the cooperation of cutting edges 74, 76 of the blade 18 with cutting edge 66 apparently crowds tissue laterally toward the junction with cutting edges 58 and 60, and the cooperation of cutting edges 74, 76 with cutting edge 70 apparently crowds tissue distally toward the junction with cutting edge 73.

Thimsen further states at col. 7, lines 12-15 that "The Auguer-like action of the helical cutter blade 18 aids in transporting the cut material proximally from the cutting site, thus reducing clogging of the instrument by the cut tissue." Rather than drawing material toward a cutting portion, this refers to the transport of cut tissue along the blade 18 after it has been cut by the scissors-like action between the outer tube cutting edges and the blade cutting edges.

The Examiner's rejection states in part:

A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In the instant case, the surgical cutting instrument of Thimsen would have been capable of performing the use as claimed. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.

The Applicants respectfully bring to the Examiner's attention that claim 18 is a method claim, and Thimsen does not describe or suggest the claimed method - nor does the instrument of Thimsen, in use, inherently perform the claimed method.

Therefore, for at least the reasons discussed above, claim 18 and its dependent claims are patentable over Thimsen.

Claim 25

Claim 25 relates to a cutting instrument including an outer member having an opening at least partially bounded by a cutting edge, and a helical knife coupled to the outer member for rotation relative to the outer member. The helical knife has an edge configured to slice into tissue. The edge of the helical knife extends through the opening such that, during use, the edge slices into tissue to draw the tissue proximally along the helical knife towards the cutting edge.

As discussed above with reference to claim 18, Thimsen does not describe or suggest an edge of a helical knife extending through an opening such that, during use, the edge slices into tissue to draw the tissue proximally along the helical knife towards a cutting edge. As claim 25 is an apparatus claim, we address the Examiner's statement quoted above, and submit that the instrument of Thimsen is not capable of slicing into tissue with edges 74, 76 to draw tissue proximally along the blade 18 towards the cutting edges 58, 60, 66, 70, 73 of outer tube 14. In particular, as shown in Figs. 3-5 of Thimsen, cutting edges 74, 76 of helical cutter blade 18 are flattened, such that blade 18 is not capable of slicing into tissue to draw the tissue proximally towards the cutting edges of the outer tube. Rather, to have an impact on the tissue, the cutting edges of the blade need to cooperate with the cutting edges of the outer tube.

Furthermore, the Examiner has not provided support for the contention that "the surgical cutting instrument of Thimsen would have been capable of performing the use as claimed."

Therefore, for at least the reasons discussed above, claim 25 and its dependent claims are patentable over Thimsen.

The Examiner has rejected claims 18 and 25 under 35 U.S.C. § 102(b) as being anticipated by Banko.

Banko does not describe or suggest slicing into tissue with a helical knife to draw tissue proximally toward a cutting portion (claim 18), or a helical knife having an edge configured to slice into tissue, the edge of the helical knife extending through an opening of an outer member

such that, during use, the edge slices into tissue to draw the tissue proximally along the helical knife towards a cutting edge of the outer member (claim 25). Rather, Banko describes applying an evacuation force to draw tissue into an opening 64 in an outer member such that tissue caught between a cutter 37 and the wall 65 of the opening 64 is sheared (col. 3, lines 48-58).

The Examiner's rejection over Banko also states in part:

A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In the instant case, the surgical cutting instrument of Banko would have been capable of performing the use as claimed. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.

As discussed above, claim 18 is a method claim. Banko does not describe or suggest the claimed method - nor does the instrument of Banko, in use, inherently perform the claimed method.

Regarding claim 25, the instrument of Banko is not capable of slicing into tissue with the edges of the cutter 37 to draw tissue proximally along the cutter towards the cutting surface of the wall 65. In particular, as shown in Figs. 4-6 of Banko, the edges of cutter 37 are flattened, such that cutter 37 is not capable of slicing into tissue to draw the tissue proximally towards the cutting edge of the outer tube. Rather, to have an impact on the tissue, the cutting edges of the cutter need to cooperate with the cutting edge of the outer tube.

Applicants do not acquiesce to the characterizations of the art. For brevity and to advance prosecution, however, Applicants have not addressed all characterizations of the art, but reserve the right to do so in further prosecution of this or a subsequent application.

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Serial No. : 10/015,778
Filed : December 17, 2001
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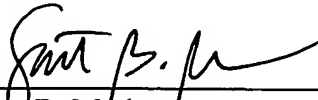
Attorney's Docket No.: 00167-456001 / 02-31-0386

Enclosed is a \$496.00 check for excess claim fees. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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8/19/2004



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